

# Monmouth County Mosquito Commission

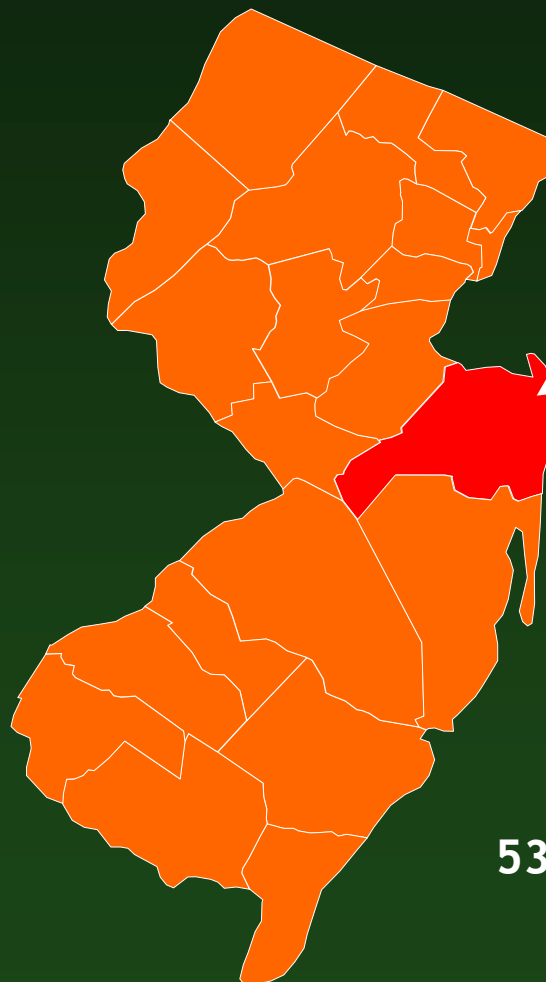
## Genesis of A Tick Program



Sean P. Healy

Promoting Community IPM to Prevent Tick-Borne Diseases  
30-31 March 2011

# Tick Program Background



**Monmouth**

472 square miles

660,000 population

53 municipal governments

8 health departments

# Tick Program Background

And you may ask yourself-well...how did I get here?

david byrne, talking heads



# Tick Program Background

## Monmouth County Mosquito Extermination Commission

- **1914** Mosquito Commission was founded
  - Primary mission mosquito control
- **1990** Began collaborating on initiatives aimed at reducing the risk of tick-borne diseases
- **1992** Participated in large-scale field trials to control *Ixodes scapularis*



# Tick Program Background

- **1992** Large-scale field trials to control *Ixodes scapularis*



Determine the feasibility of suppressing *I. scapularis* populations in a large residential community

Aerial application of granular carbaryl by helicopter to wooded residential areas during the peak activity period of nymphs in spring

# Tick Program Background

## Suppression of *Ixodes scapularis* (Acari: Ixodidae) Nymphs in a Large Residential Community

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DAVID C. SHAW,<sup>5</sup> MICHAEL A. MEDDIS,<sup>6</sup> R. CHADWICK TAYLOR,<sup>2</sup>  
AND JOSEPH PIESMAN<sup>7</sup>

J. Med. Entomol. 31(2): 206-211 (1994)

**ABSTRACT** To determine the feasibility of suppressing *Ixodes scapularis* Say populations in a large, hyperendemic residential community, several rates of granular carbaryl were applied by ground and air to the shrub layer and wooded buffers of a forested residential community during the peak activity period of nymphs. Granular carbaryl significantly reduced the abundance of *I. scapularis* nymphs on *Peromyscus leucopus* Rafinesque. Control nymphal ticks ranged between 70.0 and 90.3%. The use of properly timed acaricide applications to *I. scapularis* habitat within residential communities can provide an effective means of reducing exposure to *I. scapularis* nymphs, which are chiefly responsible for transmitting *Borrelia burgdorferi* to humans.

March 1994

SCHULZE ET AL.: CHEMICAL CONTROL OF SUBADULT *I. scapularis*

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### ROOSEVELT STUDY SITES

#### Legend:

Mature Forest  
Successional Forest  
Wetland Forest

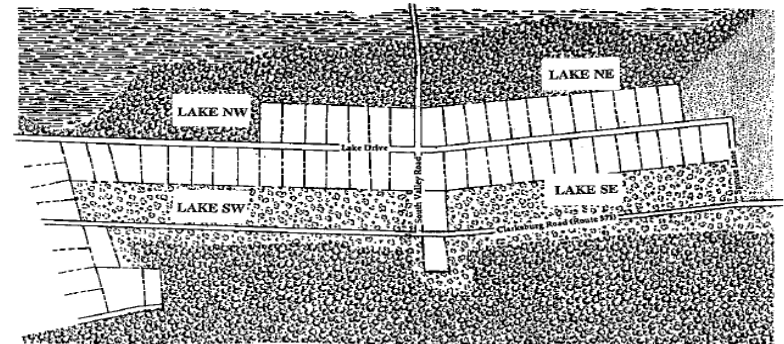


Fig. 1. Diagram of the Lake Drive, Roosevelt, Monmouth County, New Jersey, study plots.

- This was the first Area-wide project for Tick control that the Mosquito Commission had participated in



# Tick Program Background



Martin S. Chomsky

Monmouth County  
Mosquito Commission

“believe that the best professional expertise for addressing the problems of controlling ticks and the transmission of tick-borne diseases in New Jersey exists with the county mosquito commissions and mosquito control agencies.”

# Tick Program Background

Lyme disease number one reported arthropod-borne disease in New Jersey

current level of funding devoted to ticks control and tick - borne diseases was inadequate



MCMEC met with representatives of the statewide mosquito community to discuss the necessity to have legislation enacted that would enable counties to authorize agencies of county government to undertake tick related activities



# Tick Program Background

## Why was legislation necessary?

In New Jersey Mosquito Control is mandated at the County level by law.

This is done through the Public Health Statues of New Jersey under Title 26:9-22.

The statue also specifies the powers and duties of mosquito control agencies and specifically, the mosquito commissions -

**this did not include any provisions for tick related activities**



# Tick Program Background

**1994** MCMEC spearheaded legislative initiative to enable county mosquito commissions to assume leadership roles in activities related to education and control of ticks

**1997** The New Jersey Senate and New Jersey Assembly unanimously passed legislation (S-560) that would enable counties to authorize mosquito control agencies to undertake tick related activities



# Tick Program Background

**1997** Then Governor Christine Todd Whitman signed S-560 into law on April 1, 1997



## **Public law 1997, chapter 52 (26:2P-7)**

Enabled elected county officials to authorize agencies of county government to undertake tick related activities

**This new law was considered an important event in support of New Jersey's effort to reduce Lyme disease transmission.**

# Tick Program Background



**1997** The Commissioners of the MCMEC adopted a resolution on **April 30** calling upon the Monmouth County Board of Chosen Freeholders to designate the Mosquito Commission as the branch of county government to undertake tick-related activities.

# Tick Program Background



**1997** On **June 12**, the Monmouth County Board of Chosen Freeholders by resolution named the MCMEC as the agency to assume the responsibilities under S-560 and was given the authority and a budget provision to initiate the program

# Tick Program Background



**1997** The resolution designated the MCMEC to provide surveillance, education, training and recommendations on integrated management of the vectors of Lyme disease and other tick-borne pathogens, and to provide appropriate tick management activities when necessary.

# Tick Program Background



From the onset of the program, a separate budget for the Tick Program was developed and implemented.

These funds do not impact on, and are in addition to, those necessary for the proper conduct of a comprehensive mosquito surveillance and control program. **Currently \$225,000**

**In 1998, First individual was hired to direct the MCMEC's tick related activities.**

# Current Tick Program

Integrated Tick Management program for control of ticks at a County owned facility

Relying more heavily on education/training and a host-targeted (4-posters strategy to control ticks

Tick Identification and Testing Program for the residents of Monmouth County

Research into the ecology of ticks and tick-borne diseases in New Jersey

Research into developing new control strategies





# Three Primary Tick Species in New Jersey

Slightly Smaller  
Tear Drop Shaped  
Reddish Abdomen  
Solid Black Scutum



*Ixodes scapularis*  
(Blacklegged Tick)

Slightly Larger  
Round in Shape  
Chestnut Brown Abdomen  
White Dot on Scutum



*Amblyomma americanum*  
(Lone Star Tick)

Largest  
Oblong Shaped  
Dark Brown Abdomen  
White Patterns on Scutum



*Dermacentor variabilis*  
(American Dog Tick)

## The future ?